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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/592,964	09/13/2006	Thomas E. Friedmann	CL2557USPCT	4077

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Edward F. Rehberg
E. I. du Pont De Nemours and Company
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4417 Lancaster Pike
Wilmington, DE 19805

EXAMINER

POURBOHLOUL, SARIRA CAMILLA

ART UNIT	PAPER NUMBER
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4151

MAIL DATE	DELIVERY MODE
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05/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/592,964	Applicant(s) FRIEDMANN ET AL.	
	Examiner SARIRA POURBOHLOUL	Art Unit 4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/16/2007</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 and 8-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsukawa et al. (US 4,062,799).

3. Regarding claim 1, Matsukawa et al. teaches a complex coacervation process of microencapsulating water insoluble oils, comprising the steps of:

(a) forming a fine emulsion comprising said water insoluble oil and a complex polysaccharide (gum arabic) in the presence of a starch (col. 5, lines 45-68; Ex. 8);

(b) adding to the emulsion of step (a) a protein (gelatin) (col. 7, lines 1-10; col.6, lines 46-54);

(c) adjusting the pH of the composition of step (b) to a pH below the isoelectric point (pH 7 to 2) of said protein (col. 6 lines 1-3 and 11-18);

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(d) densifying the composition of step (c) (col. 6, lines 19-26); and

(e) adjusting the pH of the composition of step (d) to below about pH 10 (pH of 7.5-10) (col. 6, lines 30-33).

4. Regarding claim 2, the step of emulsification and droplet formation must be no less than gellation point of gelatin, preferably about 40 °C (col. 5, lines 52-54).
5. Regarding claim 3, densification or the process of gellation is carried out by cooling the emulsion mixture to about 10 °C (col. 6, lines 19-26).
6. Regarding claim 4, the wall of emulsion droplets are hardened by addition of a cross-linking agent such as gluteraldehyde (col. 7, lines 15-23).
7. Regarding claim 5, Matsukawa teaches that the microencapsulated composition is concentrated by filtering and condensing under vacuum (col. 11, lines 21-22).
8. Regarding claim 6, the microcapsule composition is spray dried to produce a capsule powder (col. 18, lines 47-48).
9. Regarding claim 8, the encapsulated oil is selected from a group consisting of mineral oil, vegetable oil, fish oil, and synthetic oil (col. 6, lines 55-68).
10. Regarding claims 9 and 10, the hydrophilic colloids utilized in the emulsification step include amino acid containing compounds such as gelatin, and casein, and polysaccharides such as gum arabic and carrageenan (col. 6, lines 46-49).

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11. Regarding claims 11, 14-17, the process of microencapsulation is carried out using gum arabic, gelatin, gluteraldehyde and water insoluble oil, wherein the water insoluble oil is either a PUFA such as fish oil (col. 6, line 61), a flavor oil such as vegetable oil (col. 6, line 57), a agriculturally active ingredient such as the insecticide naphthalene (col. 6, line 66), and a pharmaceutical agent such as salicylic acid (col. 6, line 67).

12. Regarding claim 13, Matsukawa teaches that the coacervates are cooled to cause gellation of the microdroplets. Raising the pH of the mixture or adding a cross-linker could be used as steps to further stabilize the capsule wall (col. 6, lines 19-26; col. 6, lines 38-40). These steps can be used together or alternatively as indicated in examples 1 and 8.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsukawa et al., as applied to claims 1-6 and 8-17 above, in view of Berry et al. (US 5,324,444).

Matsukawa et al does not teach a method of concentrating the microcapsule slurry through centrifugation. Hence attention is directed to the microcapsules of Berry et al. In the same field of endeavor, Berry e al. teaches and exemplifies a microcapsule composition encapsulating oily perfume wherein the process of concentrating is carried out through centrifugation (col. 5, lines 58-62). Since centrifugation is routinely practiced in the art, as shown in Berry et al., it would have been obvious to one skilled in the art at the time of the invention to apply the centrifugation step to the microcapsule preparation

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of Matsukawa et al. for the benefit of facilitating and enhancing the isolation and purification of microcapsules.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARIRA CAMILLA POURBOHLOUL whose telephone number is (571)270-7744. The examiner can normally be reached on M-Th, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on 571-272-1260. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Katarzyna Wyrozebski/

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Primary Examiner, Art Unit 1796
May 22, 2009

/S.C.P./